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# Operational Medical Manpower: Profiles and Requirement Determination Processes

Flora Tsui • Theresa Kimble



Center for Naval Analyses
4825 Mark Center Drive • Alexandria, Virginia 22311-1850

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Laurie J. May

Laurie J. May, Director
Medical Programs
Resource Analysis Division

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(U) The purpose of N81's M&P IWAR (Manpower and Personnel Integrated Warfare Architecture) 2000 is to examine the alignment of the Navy's operational capabilities and requirements. The examination focuses on four areas: civilian staffing, medical manpower, reserves, and retention. This study supported that effort by addressing the medical manpower issue. Our specific tasks were: provide a comprehensive profile of all operational medical personnel assets by Navy fleet and Fleet Marine Force (FMF) organizational structure; identify capabilities provided by each medical unit by platform or related organizational entity; identify the medical manpower requirement determination process for both the Navy fleets and FMFs; assess the requirement determination process, examine differences and inconsistencies within and between Navy fleets and FMFs; and, identify opportunities to achieve balance and consistency in the distribution of medical manpower resources.

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# Contents

# Summary

## Background

The purpose of N81's M&P IWAR (Manpower and Personnel Integrated Warfare Architecture) 2000 is to examine the alignment of the Navy's operational capabilities and requirements. The examination focuses on four areas: civilian staffing, medical manpower, reserves, and retention. This study supported that effort by addressing the medical manpower issue. Our specific tasks were as follows:

- Provide a comprehensive profile of all operational medical personnel assets by Navy fleet and Fleet Marine Force (FMF) organizational structure.
- Identify capabilities provided by each medical unit by platform or related organizational entity.
- Identify the medical manpower requirement determination process for both the Navy fleets and FMFs.
- Assess the requirement determination process, examine differences and inconsistencies within and between Navy fleets and FMFs, and identify opportunities to achieve balance and consistency in the distribution of medical manpower resources.

## Approach

To profile the Navy's operational medical billets, we used the officer and enlisted billet files from BuPers (Naval Military Personnel Command) to create sub-files of the operational medical billets for FY 1990, 1994, 2000, and 2004.[1] Looking at the profiles of 1990 and 1994, as well as the current and projected ones, enabled us to identify

1. FY 2000 file contains projected BAs (billets authorized) for FY 2004.

significant changes over time. It also allowed us to examine the stability and consistency of the requirement determination process during the past decade. To accomplish this, we had to address the changes in coding and data systems over the years and create a consistent series. The focus of our data processing was to extract and reorganize the operational medical billets so that we could analyze their quantity and capabilities by platform and across the years. We documented the details of the data work, including our method for handling the coding changes, in appendix A.

After we obtained the profile of the operational medical billets, we turned to the most important part of the study: the manpower determination process that brought about these billets. We first surveyed the literature, only to realize that there is little documentation, especially for the Marine Corps process. Therefore, we conducted three site visits to collect information and verify the processes.[2] All three site visits yielded valuable information for our analysis.

When putting together the pictures of the operational medical assets of the Navy fleets and FMFs, we observed distinct differences between the Blue (Navy) and the Green (Marine Corps) profiles. Information gathered from our literature review and site visits shed light on the source of these differences. Based on that information, we assessed the differences in medical manning between the Blue and Green forces and identified areas for improvement.

## Findings and assessment of the differences

We found many differences in the medical manpower of Navy fleets and of FMFs but no major inconsistencies within the organization of each. The following is a summary of our findings:

- Navy ships display a fairly consistent staffing level and mix between the Atlantic and Pacific fleets during 1990-2004.

2. We visited three commands: (1) Total Force Structure Division of MCCDC (Marine Corps Combat Development Command), (2) CG, II MEF (Marine Expeditionary Force), and (3) NAVMAC (Naval Manpower Analysis Center). We deeply appreciate their help.

- The Marine Corps exhibits some variance across MEFs but is consistent over time.
  - — III MEF is smaller than I MEF and II MEF because III MEF (in Okinawa) covers a smaller geographical area.
  - — The Marine Corps decided to have only one Chem-Bio Incident Response Force (CBIRF), which is in II MEF (but not in I or III MEF) and comprises about 30 medical personnel.
- The FMFs' medical assets, especially surgeons and dental-care providers, are heavily concentrated in the Medical and Dental Battalions in FSSG (Force Service Support Group), while the medical personnel are more widely distributed on various Navy ships.
- The FMFs have always had a larger share of all the operational medical manpower funded by Navy dollars (e.g., 62 percent in FY 2000-2004). The provider-to-population ratio has also been higher than that of the Navy Fleets (e.g., 0.047 (FMFs) vs. 0.017 (Navy fleets) in FY 2000-2004).[3] The discrepancies reflect distinct differences in the manpower determination process, which is heavily influenced by fundamental differences in organizational structure, warfighting mode, and the minimum size of deployments.
- The Navy has been paying for the operational medical billets in both the Marine Corps and the Navy fleets. It would be more reasonable to have the Marine Corps pay for its own operational medical billets.
- The manpower determination processes of the Navy and the Marine Corps share few similarities, and neither is based directly on casualty estimates.
  - — The Navy requirement is based mostly on ROC/POE (Required Operational Capabilities and Projected Operational Environment) and is determined through a formal

3. Note, however, that the provider/population ratio for Navy SEALs, whose operational mode is similar to that of the MEF, is 0.1, which is higher than the FMF ratio.

process using various mathematical models. There is some room for subjectivity, but, overall, the process is well defined and accountable.

— In contrast, the determination of the Marine Corps medical manpower requirement is based on warfighting concepts and historical rules of thumb (e.g., 1 HM (hospital corpsman) per 20 Marines for the division). Although there have been some processes for amending the existing requirements, such as FONS (fleet operational needs), they are quite subjective, are not well documented, and have not been used much for medical manpower.

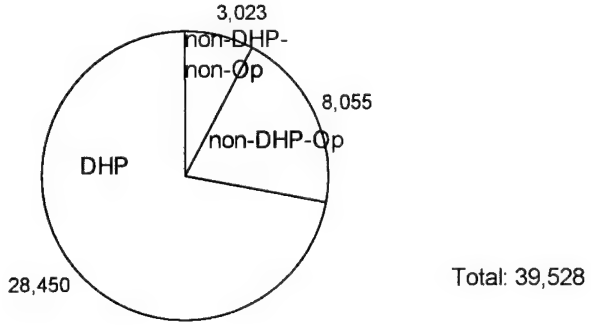
- Given the structural and functional particularities of the Navy fleets and FMFs, the medical manpower determination processes for both are conceptually reasonable. However, although the Navy process needs to be and can be validated, the lack of formal and traceable procedures makes it difficult to judge whether the Marine Corps' medical billets are excessive or insufficient. The Marine Corps needs to formalize its process to increase its accountability to be able to make a full assessment of its medical manpower and the balance between the Marine Corps and the Navy fleets.

# Profile of Navy's operational medical billets[4]

## Overview

Between 1990 and 1994, the total number of Navy operational medical billets increased from 8,315 to 8,635, then fell back to 8,055 in 2000. Operational medical billets have always accounted for about one-fifth of all the Navy's medical billets, which in turn have hovered at about 7 to 10 percent of total Navy billets. Figure 1 shows that most of the medical billets are under the Defense Health Program (DHP) and are paid for by OSD dollars. The Navy pays for the non-DHP portion, of which 8,055 billets are operational and 3,023 are non-operational (non-op). Most of these non-op medical billets are recruiters, instructors, and TPPH (transients, patients, prisoners, and holders).

Figure 1. Composition of the Navy's medical billets as of FY 2000[a]




a. The projected figures for FY 2004 are very close to those for FY 2000.

We honed in on the 8,055 non-DHP operational billets and divided them into Navy fleets and FMFs. Figure 2 shows that 62 percent of the operational billets are in FMFs and 38 percent are in Navy fleets. The ratio of FMF billets to Navy fleet billets is about 1.6 to 1.

4. For the purpose of the study, "billets" means "billets authorized" (BAs). For definitions of "operational" and "medical," see appendix A.

Figure 2. Distribution of Navy's operational medical billets

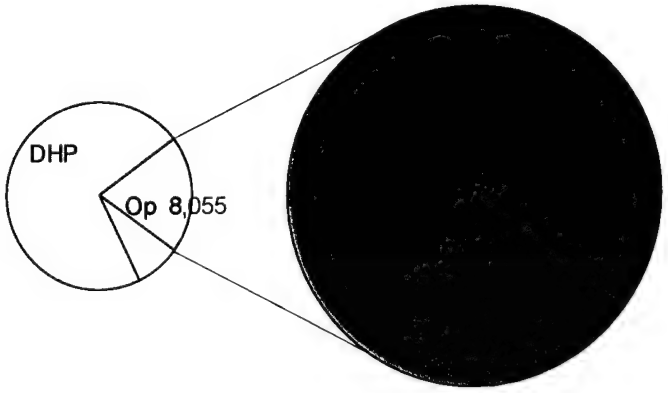
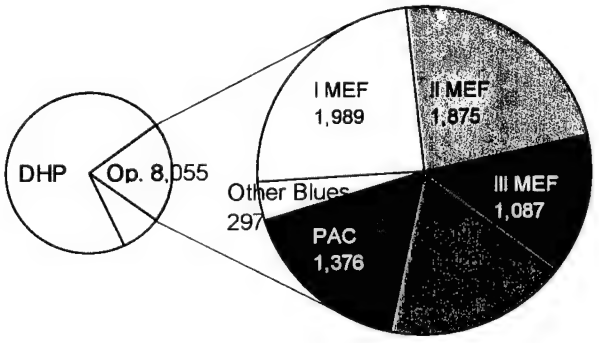



Figure 3 shows our subdivision of Navy billets into CINCPACFLT and CINCLANTFLT and FMF billets into the three MEFs. LANT and PAC have nearly the same numbers of operational medical billets;[5] I and II MEF are also close. III MEF has fewer operational medical billets because of its size and a smaller geographical area in the east Pacific.

Figure 3. Further breakdown of the Navy's operational medical billets



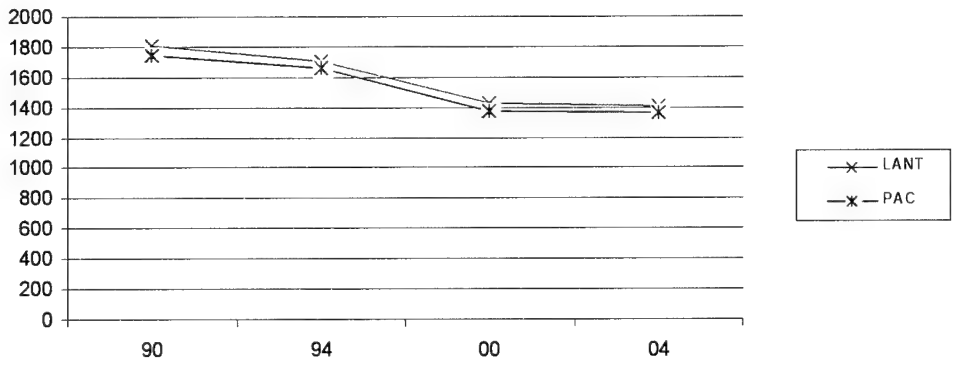

5. The "other Blues" are special warfare forces, such as the SEAL teams. They are not under the command of either LANT or PAC.

# Operational medical billets in Navy fleets

## How the numbers have changed since FY 1990

To check the stability of the Navy fleets' medical assets over time and thus determine whether the requirements have been consistent, we compared the total operational medical billets in CINCLANTFLT and CINCPACFLT over the past 10 years. As figure 4 shows, the numbers have decreased steadily from 1990 to 2000.[6] It is also clear that PAC and LANT have experienced the same extent of billet reduction. The question, then, is whether this decline reflects a downsize of medical billets on individual ships, or of the number of ships, or both.

Figure 4. Operational medical billets in LANT and PAC over time




To understand what lies behind the reduction of the Navy fleets' medical billets, we calculated the number of ships/flight-squadrons, the medical billets, and the population[7] for each type of platform.[8] As table 1 shows, there was an overall reduction of ships/squadrons in every platform except for minesweepers.[9]

6. Note again that projected 2004 figures are close to those of 2000.
7. Population is defined as the total BAs including the medical BAs.
8. We grouped LANT and PAC together because we found no differences.
9. For information at a more detailed level of ship category (such as DD, CG) and CVW squadron (such as HS, VF), see appendixes B and C, respectively.

Table 1. Number of units, operational medical billets, and population by Navy fleet platform

| Platform | Number of units | | | Medical billets[a] | | | Population[a] | | | Provider/population ratio | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1990 | 1994 | 2000 | 1990 | 1994 | 2000 | 1990 | 1994 | 2000 | 1990 | 1994 | 2000 |
| **Total** | **645** | **505** | **370** | | | | | | | | | |
| Amphib. ships | 64 | 44 | 40 | 8 | 12 | 14 | 422 | 515 | 550 | 0.020 | 0.023 | 0.025 |
| Combat support ships | 74 | 51 | 17 | 9 | 14 | 14 | 396 | 448 | 460 | 0.023 | 0.031 | 0.031 |
| Surface combatants | 201 | 134 | 119 | 2 | 3 | 2 | 308 | 296 | 289 | 0.006 | 0.009 | 0.009 |
| Aircraft carriers | 16 | 14 | 13 | 50 | 55 | 55 | 2890 | 3000 | 3100 | 0.017 | 0.018 | 0.018 |
| Minesweepers | 8 | 21 | 27 | 1 | 1 | 1 | 72 | 74 | 84 | 0.014 | 0.014 | 0.018 |
| Submarines | 174 | 137 | 92 | 1 | 1 | 1 | 139 | 146 | 151 | 0.007 | 0.007 | 0.007 |
| SEAL | 6 | 6 | 6 | 21 | 24 | 25 | 210 | 229 | 229 | 0.100 | 0.100 | 0.109 |
| CVW squadrons | 102 | 98 | 56 | 1 | 1 | 1 | 248 | 225 | 240 | 0.006 | 0.006 | 0.006 |

a. Weighted average of billets in each unit of the same platform type.

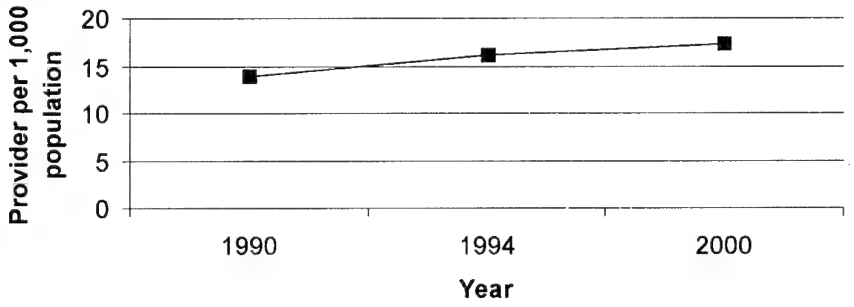
The total number of ships and flight squadrons has been declining from over 600 in 1990 to 370 in 2000 (a 43-percent reduction). We also noted that many types of ships/squadrons have been discontinued (see appendixes B and C). Furthermore, none of the platforms had a decrease in medical personnel except for surface combatants, which experienced population reductions as well. Therefore, we concluded that the decrease in the Navy fleets' medical billets was the result of the reduction of ships and flight-squadrons, not a personnel cut on board. In fact, the medical provider-to-population ratio for each platform has either stayed the same or increased.[10] Not

10. Several platforms had additions in medical personnel: (1) LSD gained 1 preventive medicine tech and 1 pharmacy tech in 1990-94, then gained 1 dental hygienist in 1994-00; (2) AOE gained 1 advanced medical administration tech in 1990-94; (3) DD and FFG gained 1 general duty-HM in 1990-94; and (4) SEAL gained 1 surface IDC and 7 special OPS IDCs at the reduction of 5 special OPS techs in 1990-94, then gained 5 more special OPS IDCs but lost 4 special OPS techs in 1994-00.

surprisingly, the aggregated provider/population ratio for the Navy fleets has increased steadily since 1990, as we show in figure 5.[11]

Table 1 also shows that the number of medical billets and the provider/population ratio vary across ship platforms. Although aircraft carriers have the most medical personnel per ship, the combat support ships have the highest provider/population ratio. Our next question is: What are these medical billets and what capabilities do they provide?

Figure 5. Provider/population ratio of Navy fleets over time




## Composition, distribution, and capabilities of the Navy fleets' operational medical billets

To further describe the operational medical billets in the Navy fleets, we looked at their ratings and specialty codes, as well as the medical capabilities they provide for each ship category. We use figures 6 and 7 to help illustrate our findings.

Figure 6 gives the breakdown of operational medical billets by ratings and platform. HM is the dominating component for each platform and is the only rating on submarines, surface combatants, minesweepers, and the SEAL team. The wing does not have dental providers or nurses; the aircraft carriers have a full set of medical personnel.

11. The percentage of increase is 14 percent from 1990 to 1994, and 9 percent from 1994 to 2000.

Figure 6. Navy fleets' operational medical personnel by category and platform

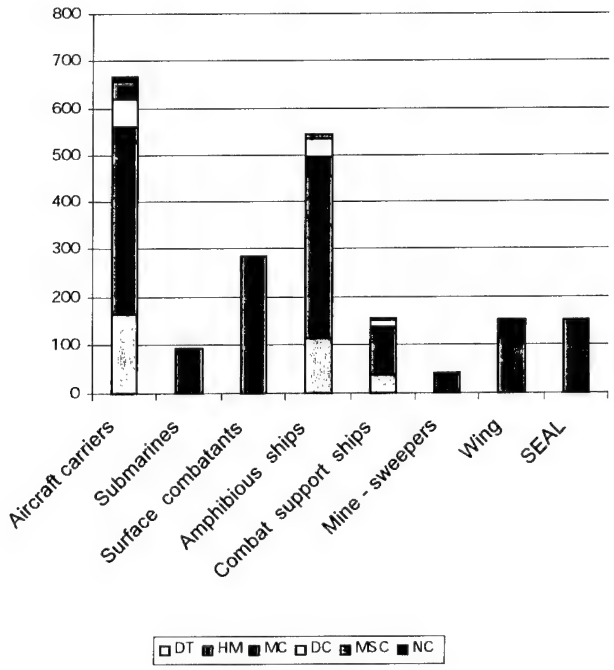
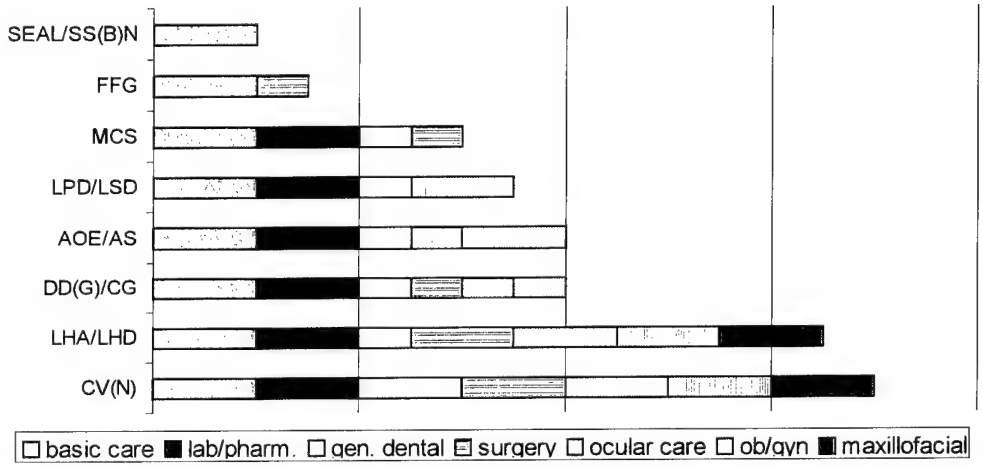



Figure 7. Medical capabilities of Navy fleets by platform[a,b]




a. More than 100 capabilities in the master ROC/POE list are medical. We aggregated them into seven categories to simplify the demonstration without losing much of the accuracy.
b. Half-length blocks represent "limited" capabilities.

To describe the capabilities provided by the medical billets by platform, we first looked at their NOBC/NEC codes. However, even though one can group the medical personnel by their specialties,[12] it is still difficult to determine exactly the capabilities they provide as a group. So we turned to ROC/POEs because each of them contains a list of medical capabilities required for a particular platform[13] and serves as the basis for the Navy's medical manpower determination process. Another advantage of using ROC/POEs is that each required capability is drawn from a master list, which makes it easy to compare the capabilities across platforms. We compiled the list of required medical capabilities from the most current ROC/POEs and summarized the results in figure 7.

Figure 7 ranks the platforms according to their medical capabilities. Every Navy ship is able to provide at least basic care. The aircraft carriers have the full spectrum of capabilities, including ocular care and maxillofacial dental surgery. The larger amphibious ships (LHAs and LHDs) have almost the same capabilities as the carriers except that they cannot provide some complicated dental services, such as periodontal, endodontic, and prosthetic services.[14] The capabilities are further limited on (and in the order of) surface combatants, combat support ships, smaller amphibious ships, and minesweepers. The least medical-capable are the submarines and SEAL teams, which only have basic care.[15]

The composition and distribution of medical assets in carrier air wings (CVWs) are much simpler than those of the ships. Basically,

12. For a list of tables of specialties by platform, see appendix D.

13. Except for CVW squadrons. The ROC/POEs for CVW squadrons do not specify required medical capabilities.

14. This matches the billet profile; as appendix D shows, there are no dental surgical techs and dental lab techs on LHAs and LHDs.

15. We checked the capabilities with the specialist list in appendix D and found them to be a good match in most cases. The only exception is that DD(G)s and CGs have only HMs on board, but they are required to provide limited dental, ocular, and surgical capabilities. Our interpretation is that these capabilities on DD(G)s and CGs must be limited to the very basic level.

each CVW has a flight surgeon and each ship-deployable squadron has one or two HMs specialized in aerospace medicine. The shore-deployable squadrons have a flight surgeon in addition to HMs because these squadrons are bigger than the ship-deployable ones.

# Operational medical billets in Fleet Marine Forces

## How the numbers have changed since 1990

After we examined the profile of the operational medical billets in the Navy fleets, we turned to the Fleet Marine Forces. Using a similar approach, we first looked at the time trend of the billet numbers by MEFs and found the trend to be the opposite of the steady decline on the Navy fleets' side. As figure 8 shows, the operational medical billets for all three MEFs increased from 1990 to 1994. This trend continued for I MEF, but the billet numbers fell marginally for II MEF and III MEF between 1994 and 2000.[16] Is this driven by changes in the number of units, as in the case of the Navy fleets, or changes in the medical billets per unit? Unfortunately, we cannot check either number historically because of data limitations.[17] The only historical Marine Corps manpower data available are aggregated numbers across the three MEFs, but at least the data allowed us to calculate the Marine Corps provider/population ratio across the years.

Figure 9 presents the provider/population ratio of the Marine Corps for 1990, 1994, 2000, and 2004 (projected).[18] It is clear that the ratio has been increasing since 1990, which is the same trend as the ratio of Navy fleets.[19] However, compared to the Navy fleets' ratio in

16. The medical staff at CG, II MEF mentioned that I MEF should have more medical support than II MEF because it is larger than II MEF. (I MEF has 12 infantry battalions; II MEF has only 9.)

17. The Marine Corps kept manpower data electronically for only 2 years. It took MCCDC 1 month to obtain the historical total Marine Corps population for us because it had to go through paper files. It has now started archiving data on CD-ROMs.

18. We did not include Support Element in the Marine population because the personnel are at base stations and schools and are not operational.

19. The percentage of increase is 18 percent from 1990 to 1994, and 6 percent from 1994 to 2000.

figure 5, the ratio for FMFs has always been higher. This discrepancy warrants careful examination of the respective manpower determination process, which we address after the review of the composition and the capabilities of Marine Corps operational medical billets.

Figure 8. Total operational medical billets in MEFs over time

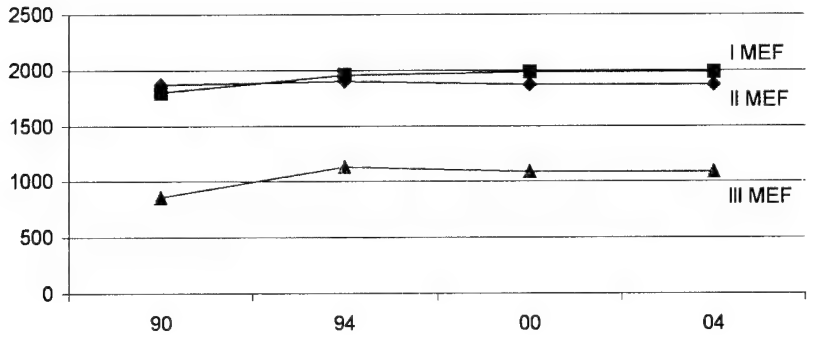
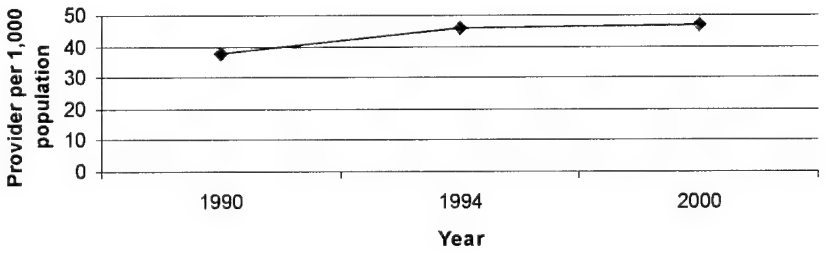



Figure 9. Provider/population ratio of Fleet Marine Forces over time

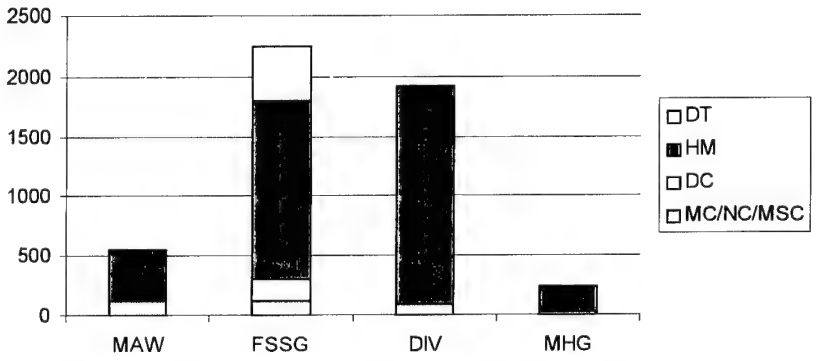



## Composition, distribution, and capabilities of the Fleet Marine Forces' operational medical billets

To capture the FMFs' medical capabilities, we first examined the distribution of medical personnel in the major sub-units under the MEF: MAW (Marine Air Wing), FSSG (Force Service and Support Group),

DIV (Marine Division), and MHG (MEF Headquarters Group). Figure 10 shows that FSSG has most of the medical billets, including all the dentists and dental technicians. In fact, FSSG contains Medical Battalions and Dental Battalions that are to support the entire MEF in large-scale operations or when any expeditionary unit's medical needs exceed its organic assets. Like the Navy fleets, HM is also the dominating medical personnel group for each unit. Note, however, that the Marine Corps has so few Nurse and Medical Service Corps personnel that if we separated them out from the Medical Corps, they would be invisible in this bar chart.[20]

Figure 10. Fleet Marine Forces' operational medical personnel by category and platform

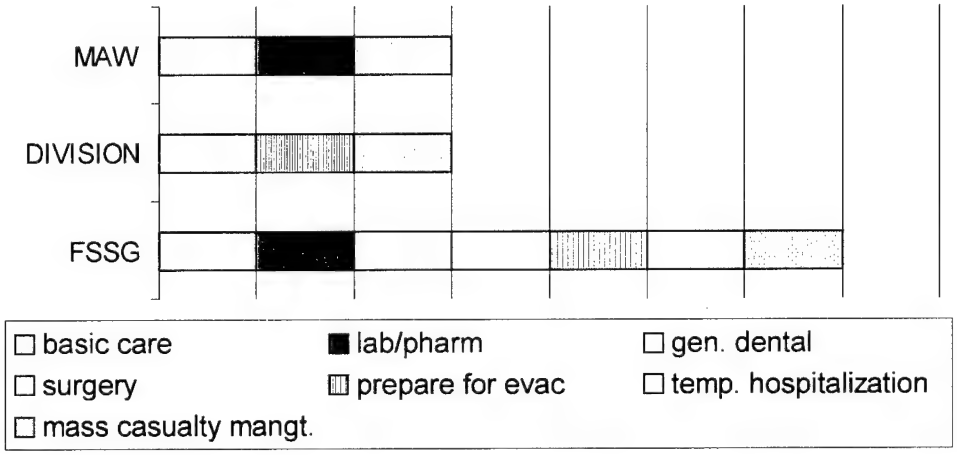



For describing the medical capabilities of various FMF units, there is no parallel document to the Navy fleets' ROC/POEs. The Marine Corps document that is closest to the Navy's ROC/POE is Marine Corps Reference Publication (MCRP) 5-12D, *Organization of Marine Corps Forces*. But the description in this document is broad and general. To derive a more detailed depiction of Marine Corps' medical capabilities by platform, we drafted a capability list based on MCRP 5-12D and refined it in consultation with medical officers at CG, II MEF. The capabilities on this list are somewhat different from the capabilities on the Navy fleets' list because Marine Corps medicine has a

20. A detailed account for all the Marine medical billets within MAW, FSSG, DIV, and MHG is given in appendix E.

different mission. Casualty management and preparation for evacuation are key capabilities for the Marines, as they are often ground-deployed and at high risk of having heavy casualties. As figure 11 shows, the FSSG is like the medical center for MEF, providing comprehensive medical capabilities to the whole force. Although the MAW and division have fewer capabilities, both are capable of providing basic care and mass casualty management.

Figure 11. Medical capabilities of FMF platforms



# Manpower determination process for operational Navy medicine

The principal purpose of IWAR is to ensure that resource allocation is aligned with capability requirements. In the context of operational medical manpower, that means ascertaining that the medical billets authorized are generated from operational requirements through a valid manpower determination process. Therefore, after we identified the profile of operational medical billets, we examined and assessed the process that brought about their existence. We especially focused on the comparison between the Navy fleet and Fleet Marine Forces because their profiles exhibit considerable dissimilarities.

## The manpower determination process for the Navy fleets

The Navy fleets' manpower determination process is administered by NAVMAC (Navy Manpower Analysis Center). It has separate procedures for the enlisted personnel and the officers. The process used to determine medical requirements is the same as the process used to determine all other manpower requirements. For the most part, the enlisted process is a formal process that is workload-based. The workload for flight squadrons is based on population, and the workload for ships is based on ROC/POE-dictated capabilities and ship configurations. The requirement for the officers (and some enlisted) is based on the need for command authority and special expertise, and the process is less formal. In addition, CNO directives have always been important inputs in both the enlisted and officer processes.

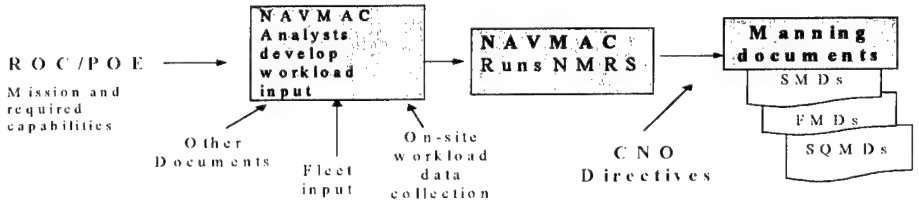
### The process for the enlisted

As we mentioned earlier, the methods NAVMAC uses to determine workload for ships and flight squadrons are different.

### For ships

Because the process for determining the enlisted billets on ships is complicated, we use the flow chart in figure 12 to help highlight the key steps and factors. As figure 12 shows, the basis for the ships' manpower requirement is the ROC/POE. Each ROC/POE lists detailed capabilities required under various operational conditions for each class of ship. According to our interviews with NAVMAC personnel and the warfare sponsors, the day-to-day manning is based mostly on Condition III.[21] NAVMAC is responsible for constructing the enlisted billet structure that is just enough to support the mission and required capabilities in ROC/POE.

Figure 12. Manpower determination process for the Navy fleets (enlisted)




NAVMAC conducts its enlisted manpower determination in a stepwise process. First, the analysts estimate the workload to support ROC/POE-dictated capabilities by ship divisions.[22] To do so, they have to collect workload data through on-site interviews and surveys,[23] document reviews (e.g., ship's blueprint, Occupational

21. ROC/POEs are written to the following five conditions: I. battle readiness, II. modified battle readiness, III. wartime/increased tension/forward-deployed cruising readiness, VI. peacetime cruising readiness, and V. in-port readiness.

22. The majority of the medical workload falls under divisions H and D.

23. The on-site surveys are detailed and in depth, asking about the frequency and duration of different activities. One sample survey form for HMs has more than 70 questions: 75 percent are related to administrative duties, and only 25 percent are related to clinical duties.

Standards, Survivability Guides), and warfare sponsor consultation. Then the analysts put the workload data into a computer system—the NMRS (Navy Manpower Requirement System). NMRS contains several subsystems corresponding to various workload components for each division of a ship,[24] and each subsystem has a set of equations for calculating the man-hours of work. The central system of NMRS combines the results from each subsystem and determines the total work hours. It then compares the total work hours against the Standard Navy Work Week Afloat to determine the number of billets required. The analysts at NAVMAC check the NMRS results for inconsistencies or oddities. Finally, they use the Navy's paygrade distribution table to spread the billets across paygrade, and use the Occupational Standards to assign NECs.

**For carrier air wing (CVW) squadrons**

The manpower determination model for CVW squadrons (SQ) is less complicated than for the ships. The reason is twofold: (1) the composition of CVWs is much simpler, and (2) with the backup from the medical staff on aircraft carriers, CVWs do not need much medical capability besides aviation medicine.

The manpower process for CVWs also started with in-depth on-site interviews and surveys. Using the survey data, NAVMAC analysts ran several regression analyses and found population to be the main factor driving CVWs' medical workload.[25] Based on the regression results, NAVMAC developed equations for calculating medical personnel, which were put into NMRS's squadron module. The rest of the process (billet validation, billet spread) is similar to the process for ships, but simpler.

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24. The components that are relevant for medical workload are watch station, PM (preventive maintenance), CM (corrective maintenance), FM (facilities maintenance), and OUS (own-unit support).

25. Different populations drove the workload for shore- and ship-deployable SQs. For shore-deployable SQs, such as VPs, HMs, and VQs, which are usually larger than the ship-deployable SQs, it's the SQ population; for the ship-deployable SQs, it's the wing population.

## The process for officers

The Navy's manpower determination process for officers experienced a significant change in 1994-1995. Before then, the officer requirements were dictated by Ship Officer Staffing Guide (SOSG), which, to a large extent, is written to admirals' orders. When SOSG was cancelled in 1995, the Navy tasked NAVMAC to determine the officer requirements. NAVMAC then performed a study and concluded that officer requirements should not be based on workload but rather on other considerations. The first consideration is command authority because every ship needs only one Commanding Officer no matter what the workload is. Second, when special skills or watch- standing are needed, at least one officer has to be on board for that purpose. Therefore, command authority, special skill/knowledge, and watch-station officer requirements have been the three main factors NAVMAC uses to determine officer requirements.

As we examined the process for determining the *enlisted* medical manpower, we found two areas in the process that allow subjective influence. First, as highlighted in figure 12, CNO directives can dictate the type and quantity of medical billets to be added on board. Second, NAVMAC analysts always have discretion when they consider what other documents and fleet inputs to incorporate in the process.

There are also concerns about whether the output from NAVMAC's model really produces the requirement. For example, some Navy researchers have argued that basing requirements on Condition III capabilities leaves in-port activities out of the workload, therefore underestimating the true workload. To our knowledge, N81 has taken initiatives to further explore the model with the goal of improving its accuracy.

# The manpower determination process for Fleet Marine Forces

The manpower determination process of FMFs is very different from that of the Navy fleets. There are no formal procedures for determining the FMFs' manpower requirements. This lack of formal procedures extends to medical requirements. Most of the medical requirements were established many decades ago by "rules of thumb," and the current manpower process just makes amendments.

Because a large share of the Marine forces is deployed at any point in time,[26] wartime readiness, which is at a higher level than Condition III readiness of the Navy fleets, drives the Marine Corps' daily requirements. Furthermore, FMF units are task organized and are convertible, so their manpower requirement is based on the mission, as opposed to the workload of the units.

The historical rules of thumb for FMF medicine are associated with the forces' warfighting doctrine and deployment mode. The following rules and their rationale exemplify this association:

- Each squadron in the MAW (Marine Air Wing) has one flight surgeon because when the squadrons are deployed, each one is on its own and needs an own-unit doctor.
- Each Division Aid Station has two doctors, so there is a backup when one doctor goes with the forward-deployed troops.
- Because the Marine Corps organization generally goes by the "rule of three" (i.e., there are three sub-units under each parent unit), the medical structure follows the same rule. For example, a Medical Battalion has three Surgical Companies to support the three Battalions under any Regiment. [27]

Although most FMF medical assets were established by historical rules, a few changes took place in the past decade. The most important one is the restructuring of the Battalion Aid Station (BAS) in 1996. As the Marine Corps emphasized leaner and faster forces, BASs were reorganized to be lighter and more surgically capable. The changes included the addition of Shock Trauma Platoons and Surgical Companies.[28] How did changes like this take place in the Marine Corps?

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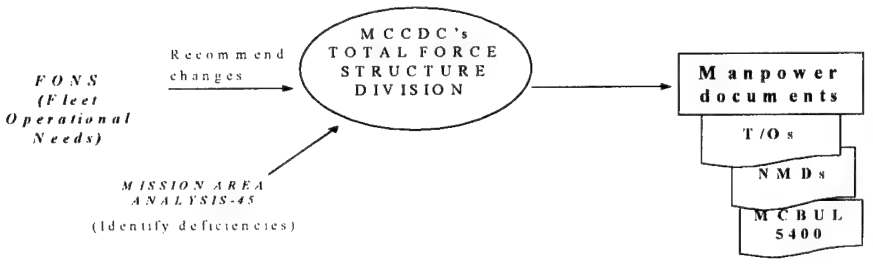
26. For example, at present, 4,500 (29 percent) of the 2MARDIV (2nd Marine division) are deployed. The Marine Corps medical assets have many commitments, including peacekeeping, wildfire fighting, and a long list of exercises.

27. According to the medical staff at CG, II MEF, another established rule of thumb (whose rationale is unknown) is that for the division, there should be 1 HM per 20 Marines and 1 doctor per 1,000 Marines.

Based on our interviews with MCCDC and CG, II MEF, there are two ways to generate changes in Marine Corps medical assets. As depicted in figure 13, they are FONS (Fleet Operational Needs) and MAA-45.

Figure 13. Medical manpower determination process for the FMF




FONS is a process that begins with a recommendation letter (usually from the MEF surgeon) that goes up the chain of command. The recommendation then goes to the Combat Development Process (CDP) for discussion. The CDP is a "Council of Colonels" that makes final decisions on whether to implement the recommended change(s). If CDP decides to make the change, the decision goes to MCCDC's Total Force Structure Division to be incorporated in the new manpower document.

The second channel for changing FMF medical manpower had been MAA-45 (Mission Area Analysis of Health Services). MAA-45 examined the Marine medical support assets, identified the deficiencies, and made recommendations. Proposals for the above-mentioned BAS reorganization, for example, originated from the 1993 MAA-45, combined with lessons learned from Desert Shield/Storm.[29]

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28. Note, however, that the changes involved reassigning existing medical billets without altering the total number of billets. For example, the restructured I & II Medical Battalions each has lost 56 HMs but gained 49 nurse corps and 7 medical corps personnel.

29. See [1], p. 10.

However, Marine Corps guidance directed that the MAA-45 study be based on "professional military judgement and collective operational experience," and not on a "quantitative, analytical process" [2, p. ES-1]. Also, the Marine Corps has discontinued MAA-45 because it is changing all the MAAs from function-specific to scenario-unique analyses. With this change, all future medical analyses will be a part of the scenario study, such as OMFTS (Operational Maneuver from the Sea) as opposed to stand-alone studies devoted to medical issues.

Comparing the FMF process to the Navy fleet process, we can see a lot of subjectivity in the FMF process. Some of the historical rules of thumb do not have rationales. Even for the ones that do, there is usually no proof that the rule is optimal. The FONS process is not well documented, and there is no way to review the rationale behind the council's decisions. MAA-45, by above-mentioned Marine Corps guidance, is also prone to subjective judgement. As a consequence of the absence of an objective, accountable manpower determination system, it is difficult to validate the medical billets in the Fleet Marine Forces.

# Assessment of the differences between the Navy fleets and the FMFs

Our analysis of the profile and manpower determination process for the Navy fleets and Fleet Marine Forces identified considerable differences between these two entities. We discuss the disparities in two subsections—profiles and determination processes—and then offer recommendations in our concluding remarks.

## Profiles

The most notable contrast between the profiles lies in the sheer numbers. The FMF owns 62 percent of the Navy's total operational medical billets and has a provider-to-population ratio consistently higher than that of the Navy fleets over the years. However, this does not necessarily mean that the FMF medical assets are oversized.

The reason that the higher provider/population ratio does not suffice to conclude that FMFs have too many medical billets is twofold. First, the ratios for Green and Blue are both inaccurate. The assumption behind the ratio is that Green medical billets serve only the Green population, and Blue medical billets serve only Blue. However, in reality, the Green medical providers have been serving Blue sailors in Dental Clinics and Naval Hospitals on Marine Corps bases as well. On the other hand, Blue medical providers also see Green patients on ships. Unfortunately, no data on the population served by other services' providers are reliable enough for us to adjust the ratio.

Second, comparing Green's provider/population ratio to Blue's is comparing apples to oranges. FMFs often deploy in scattered small units—sometimes as small as six Marines—but not the Navy fleets. Therefore, a certain provider/population that works for the Blue may not be enough for the Green. For example, one HM can be enough to support a submarine of 150 sailors, but will not be enough for a

rifle platoon of 43 when the rifle platoon sends out its three rifle squads simultaneously. The special operation mode of the Marine Corps does call for more medical billets. As a matter of fact, the Navy SEALs, whose operational mode is similar to that of the MEFs, have an even higher provider/population ratio than that of the FMF. The question is: How many more billets are necessary and how is that determined? Unfortunately, we did not find satisfactory answers from reviewing the Marine Corps' manpower determination process.

## Manpower determination process

The manpower determination process of the FMFs is in sharp contrast with the one for Navy fleets. The Blue process is mostly formal, well documented, and thus accountable. Although questions do arise when one closely examines the model, at least the transparency of the process allows further investigation.

On the other hand, Green's medical structure is based on "historical rules" instead of a clear manpower determination process. FONS, the main vehicle for amending the Green medical staffing, is not well documented, and, therefore, one cannot evaluate the validity of changes that have been made. As for MAA-45, it is not a quantitative analysis and cannot serve to validate the number of medical billets. Even though, by and large, the historical rules appear logical and reasonable, there is no way to verify whether the billet profile is optimal. Without a formalized manpower determination process to enhance the accountability of its current medical profile, the medical billets in the FMFs will continue to be subject to suspicion and scrutiny.

## Concluding remarks

This study lays the groundwork for IWAR's goal to align operational medical manpower with required capability. We identified the profiles of the operational medical billets in the Navy fleets and the Fleet Marine Forces and contrasted them with each other. We also examined and compared the billet determination processes. On both counts, we found significant differences between the Navy fleets and the FMFs. We also discovered that most of the disparities result from fundamental structural and functional dissimilarities between the two

entities. Therefore, to make the Green and Blue parallel would be difficult because it cannot be done without a major overhaul of one or both organizations. Nevertheless, for the Navy to move toward optimizing its medical manpower, some work can be done to validate both the Navy and the Marine Corps manpower determination processes.

The Navy should validate the effectiveness and accuracy of the current manpower determination process in translating the required capabilities into billet requirements. The model NAVMAC uses is complicated, and validation of it is a major task. However, as the model and process are clearly defined, the task is feasible. We know that N81 has already initiated such an effort, and it certainly is well worth following through.

Evaluating and validating the Marine Corps' process would be difficult because there is no model, and the process is not traceable. The Marine Corps needs to make its manpower determination process more formal so that it can be analyzed quantitatively. Until one can track and account for the Marine Corps operational medical billets through a well-defined manpower process, any debates over the balance between Blue and Green medical assets are more like arguments over art rather than science, and are not settled.

Another issue worth mentioning is the fact that the Navy is paying for the Marine Corps' medical billets. It does not seem fair and deprives the Marine Corp of the power of managing its medical billets with other billets. The funding mechanism should be revised so that the Marine Corps has the full responsibility over all its billets, including medical.

Furthermore, we are concerned about the lack of linkage between the required medical capabilities and casualty estimation for both the Navy fleets and the FMFs. We found it problematic because the core mission of operational medical personnel is to treat casualties. Without the estimate of casualties, the required medical capabilities in either the Navy's ROC/POEs or the Marine Corps' documentation are just a gross estimate. We understand that casualty estimates have bedeviled military planners throughout recent history, and that few significant casualty data have resulted from recent U.S. military

operations. However, given the advances in computer technology and its simulation power, building casualty-estimate models is not as formidable as before, and some models already exist. It would be a worthy undertaking because casualty estimates will provide a much more solid foundation for determining medical manpower.

# Appendix A: Notes on extracting and organizing operational medical billets

This appendix explains how we extracted the Navy's operational medical billets to create the data files we used, and how we sorted the billets by organizational entities. We break this appendix into two parts: extracting the billets and separating the billets into platforms.

## Extracting the billets

We extracted operational medical billets from the officer and enlisted billet files. The records in those files are organized by UIC (unit identification code), and for each UIC there are current BAs (billets authorized) and projected BAs for the next four years. We pulled out the UICs for operational medical billets in several sequential steps, which we describe below. We used the billet files for FY 1990, 1994, and 2000. Because the data of FY 2000 are organized and coded differently from the two earlier ones, the procedures for processing FY 2000 data are slightly different from FY 1990 and 1994. We describe them separately.

### FY 2000

1. Extracting the medical billets:
   a. For officers, we took the UICs that have personnel whose "designator" is 2000, 2100, 2102, 2200, 2300, 2302, or 2900.
   b. For enlisted, we took the UICs that have personnel whose "rating" is HM, HN, DT, or DN.
2. For the purpose of the study and to avoid double-counting, we kept only the UICs whose personnel were active-duty and were not TAR, additional-duty, or canvasser recruiters.
3. Extracting operational billets from medical billets:

a. First, we deleted the UICs whose PE (program element) codes identified that DHP funded their BAs.[1]

b. Second, we took the UICs whose "resource sponsor" was 093 (i.e., N093), 4 (N4), 6 (N6), 85 (N85), 86 (N86), 87 (N87), or 88 (N88). However, among the UICs whose resource sponsor was N093, we kept only the ones whose "activity code" was 0160 (i.e., hospital ships) or 3438 (fleet surgical teams).

c. Finally, we took the UICs whose seashore codes identify that they were sea duty. We also kept all UICs whose "claimant" was 60 (CINCLANTFLT) or 70 (CINCPACFLT), no matter what their sea/shore codes were.[2]

## FY 1994 and 1990

1. Extracting the medical billets: the same as steps 1 and 2 for FY 2000.

2. Extracting operational billets from medical billets:

   a. Because DHP did not exist before 1994, we could not use PE codes as the first screening for operational billets. Upon the recommendation of N122, we used "claimant=18" instead (i.e., we deleted the UICs whose claimant is BuMed). Later, we applied this criterion to FY 2000 data in lieu of the PE codes and obtained the same final result as the result from using PE codes.

   b. Then we took the UICs whose "resource sponsor" was 02 (i.e., N87), 03 (N86/85), 04 (N4), 05 (N88), 14 (N6), 27

1. The 21 DHP PE codes are: 0801720N, 0806721N, 0806761N, 0807700N, 0807705N, 0807709N, 0807714N, 0807715N, 0807724N, 0807725N, 0807778N, 0807779N, 0807785N, 0807790N, 0807796N, 0807798N, 0807900N, 0807915N, 0807978N, 0807979N, 0807996N. This list is from N122.

2. N81 wanted to include shore-duty billets of the Fleets in this study on the ground that they are in direct support of the operational forces even though they are not really deployable.

(N093, only if the "activity code" was 0160 or 3438), and 85 (N85). [3]

c. The final step was the same with step 3.c in FY2000.

## Sorting the billets into Blue and Green platforms

After we obtained the operational medical billets, we divided them into Navy fleets and Fleet Marine Forces by AG/SAG (activity group/subactivity group) code. If the AG/SAG code was 2700 (FY 1994 and 2000) or 1011 (FY 1990), the UIC was considered to be Green; otherwise it was considered Blue. To check the balance within the Navy fleets and FMFs, we further divided the billets into their next level of platforms according to the organizational structures.

Sorting the Blue operational medical billets was straightforward. First, we divided them into CINCLANTFLT, CINCPACFLT, and Special Warfare, using MCA (manning control authority) code. The next level of granularity was individual ship, flight squadron, or SEAL team, which was readily given by the UIC title. The UIC titles also allowed us to aggregate them into different categories such as aircraft carriers or submarines.

On the other hand, sorting out the Green billets was more complicated, because the MC organization does not go by UICs.[4] Using UICs, we could sort the Green billets into I MEF, II MEF, and III MEF. However, the MEF level was too aggregated for us to conduct meaningful analyses and to make parallel comparisons to the Navy fleets. To divide the billets in the MEFs, we had to link the billet file to the Header records.[5] The information contained in the Header records

3. There are coding changes for resource sponsors over the years. N122E3 provided us the cross-walk. Also note that code 85 is not in FY 1990 data.

4. The Marine Corps personnel data files are organized by MCC/RUC (Monitored Command Codes and Reporting Unit Codes), which are not in the billet files we used and there is no crosswalk between UIC and MCC/RUC.

5. We had to link these data elements by both AUIC (Activity UIC) and Billet Sequence Code.

finally enabled us to assign all the Green medical billets to their platforms two levels down from the MEF level. Unfortunately, Billet Headers/Notes were not available for FY 1994 and 1990, so we could not perform the same detailed analysis on the MC side for those two years.

# Appendix B: Number of ships, medical billets, and total billets by ship category

| | Number of ships | | | Medical billets per ship | | | Population per ship | | | Provider/population ratio | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ship | 1990 | 1994 | 2000 | 1990 | 1994 | 2000 | 1990 | 1994 | 2000 | 1990 | 1994 | 2000 |
| **Grand total** | **543** | **407** | **314** | | | | | | | | | |
| **Amphibious** | **64** | **44** | **40** | | | | | | | | | |
| LHA | 5 | 5 | 5 | 22 | 22 | 22 | 950 | 1000 | 1000 | 0.023 | 0.022 | 0.022 |
| LHD | 1 | 4 | 7 | 25 | 26 | 24 | 1000 | 1100 | 1100 | 0.025 | 0.024 | 0.022 |
| LKA | 5 | 0 | 0 | 7 | | | 360 | | | 0.019 | | |
| LPD | 13 | 11 | 11 | 11 | 11 | 11 | 400 | 390 | 380 | 0.028 | 0.028 | 0.029 |
| LPH | 7 | 4 | 0 | 15 | 14 | | 680 | 700 | | 0.022 | 0.020 | |
| LSD | 13 | 16 | 15 | 6 | 8 | 10 | 345 | 320 | 315 | 0.017 | 0.025 | 0.032 |
| LST | 20 | 4 | 2 | 2 | 3 | 2 | 250 | 260 | 190 | 0.008 | 0.012 | 0.011 |
| **Combat support** | **74** | **51** | **17** | | | | | | | | | |
| AE | 12 | 10 | 0 | 5 | 5 | | 400 | 400 | | 0.013 | 0.013 | |
| AD | 9 | 6 | 0 | 30 | 34 | | 550 | 625 | | 0.055 | 0.054 | |
| AO | 5 | 5 | 0 | 2 | 3 | | 200 | 255 | | 0.010 | 0.012 | |
| AOE | 4 | 7 | 8 | 9 | 9.5 | 9.5 | 600 | 600 | 550 | 0.015 | 0.016 | 0.017 |
| AOR | 7 | 4 | 0 | 5 | 5 | | 450 | 465 | | 0.011 | 0.011 | |
| ARS | 11 | 4 | 4 | 2 | 2 | 2 | 200 | 102 | 106 | 0.010 | 0.020 | 0.019 |
| ASR | 6 | 1 | 0 | 2 | 2 | | 200 | 200 | | 0.010 | 0.010 | |
| AS | 4 | 9 | 5 | 28 | 35 | 32 | 600 | 600 | 600 | 0.047 | 0.058 | 0.053 |
| ATF | 2 | 0 | 0 | 1 | | | 77 | | | 0.013 | | |
| ATS | 3 | 3 | 0 | 2 | 2 | | 115 | 117 | | 0.017 | 0.017 | |
| AFS | 8 | 1 | 0 | 6 | 5 | | 440 | 464 | | 0.014 | 0.011 | |
| AVT | 1 | 0 | 0 | 24 | | | 1500 | | | 0.016 | | |
| AR | 2 | 1 | 0 | 21 | 27 | | 850 | 953 | | 0.025 | 0.028 | |
| **Surface combatant** | **201** | **134** | **119** | | | | | | | | | |
| CG | 37 | 28 | 27 | 2 | 3.5 | 3 | 383 | 380 | 365 | 0.005 | 0.009 | 0.008 |

| Ship | Number of ships | | | Medical billets per ship | | | Population per ship | | | Provider/population ratio | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1990 | 1994 | 2000 | 1990 | 1994 | 2000 | 1990 | 1994 | 2000 | 1990 | 1994 | 2000 |
| CGN | 9 | 8 | 0 | 2 | 5.5 | | 615 | 550 | | 0.003 | 0.010 | |
| DD | 31 | 31 | 24 | 2 | 2 | 3 | 350 | 330 | 320 | 0.006 | 0.006 | 0.009 |
| DDG | 27 | 16 | 33 | 2 | 2 | 2 | 350 | 330 | 320 | 0.006 | 0.006 | 0.006 |
| FF | 46 | 0 | 0 | 2 | | | 280 | | | 0.007 | | |
| FFG | 51 | 51 | 35 | 1 | 2 | 2 | 175 | 180 | 180 | 0.006 | 0.011 | 0.011 |
| **Aircraft carrier** | **16** | **14** | **13** | | | | | | | | | |
| CV | 9 | 6 | 3 | 50 | 55 | 55 | 2890 | 3000 | 3100 | 0.017 | 0.018 | 0.018 |
| CVN | 7 | 8 | 10 | 50 | 55 | 55 | 2890 | 3000 | 3100 | 0.017 | 0.018 | 0.018 |
| **Minesweeper** | **8** | **21** | **27** | | | | | | | | | |
| MCM | 8 | 16 | 12 | 1 | 1 | 1 | 72 | 81 | 80 | 0.014 | 0.012 | 0.013 |
| MHC | 0 | 5 | 14 | | 1 | 1 | | 50 | 45 | | 0.020 | 0.022 |
| MCS | 0 | 0 | 1 | | | 15 | | | 677 | | | 0.022 |
| **Submarine** | **174** | **137** | **92** | | | | | | | | | |
| SSN | 102 | 98 | 56 | 1 | 1 | 1 | 135 | 140 | 145 | 0.007 | 0.007 | 0.007 |
| SSBN | 72 | 39 | 36 | 1 | 1 | 1 | 145 | 160 | 160 | 0.007 | 0.006 | 0.006 |
| **SEAL** | **6** | **6** | **6** | 21 | 24 | 25 | 210 | 229 | 229 | 0.100 | 0.100 | 0.109 |

# Appendix C: Number of squadrons, medical billets, and total billets by squadron category

| CVW squadron | Number of squadron | | | Medical billets | | | Population | | | Provider/population ratio | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1990 | 1994 | 2000 | 1990 | 1994 | 2000 | 1990 | 1994 | 2000 | 1990 | 1994 | 2000 |
| **Total** | **151** | **121** | **100** | | | | | | | | | |
| HC | 0 | 1 | 0 | | 1 | | | 109 | | | 0.009 | |
| HM | 2 | 2 | 2 | 3 | 2 | 3 | 620 | 450 | 542 | 0.005 | 0.004 | 0.006 |
| HS | 13 | 11 | 10 | 1 | 1 | 1 | 185 | 200 | 180 | 0.005 | 0.005 | 0.006 |
| VA | 20 | 8 | 0 | 1 | 1 | | 250 | 300 | | 0.004 | 0.003 | |
| VAQ | 13 | 11 | 14 | 1 | 1 | 1 | 200 | 175 | 181 | 0.005 | 0.006 | 0.006 |
| VAW | 13 | 12 | 10 | 1 | 1 | 1 | 160 | 155 | 162 | 0.006 | 0.006 | 0.006 |
| VC | 3 | 1 | 0 | 1 | 1 | | 210 | 214 | | 0.005 | 0.005 | |
| VF | 22 | 18 | 12 | 1 | 1 | 1 | 255 | 250 | 270 | 0.004 | 0.004 | 0.004 |
| VFA | 19 | 22 | 24 | 1 | 1 | 1 | 210 | 208 | 211 | 0.005 | 0.005 | 0.005 |
| VP | 24 | 16 | 12 | 3 | 3 | 3 | 316 | 300 | 370 | 0.009 | 0.010 | 0.008 |
| VPU | 2 | 1 | 2 | 1 | 1 | 1 | 156 | 187 | 200 | 0.006 | 0.005 | 0.005 |
| VQ | 6 | 6 | 4 | 1-3 | 1-4 | 1-3 | 379 | 195 | 420 | | | |
| VR | 1 | 0 | 0 | 1 | | | 335 | | | 0.003 | | |
| VRC | 1 | 1 | 0 | 1 | 1 | | 321 | 186 | | 0.003 | 0.005 | |
| VS | 12 | 11 | 10 | 1 | 1 | 1 | 250 | 195 | 213 | 0.004 | 0.005 | 0.005 |

# Appendix D: Medical specialties in the Navy fleets by type of platform[1]

## AOE

| NOBC/NEC | Title | BA |
|---|---|---|
| 0020 | Health service department head | 1 |
| 0525 | Comprehensive dentist | 1 |
| DT0000 | General duty DT | 1 |
| HM0000 | General duty HM | 1 |
| 8425 | Surface force IDC | 1 |
| 8432 | Preventive med tech | 1 |
| 8451 | X-ray tech, basic | 1 |
| 8506 | Medical lab tech | 1 |
| 8703 | Dental admin tech | 1 |
| 8708 | Dental hygienist | 1 |

## ARS

| NOBC/NEC | Title | BA |
|---|---|---|
| 8493 | Med deep diving tech | 1 |
| 8494 | Deep sea IDC | 1 |

1. As of July 2000. In some cases, there is slight variation across ships in the same category. In those cases, the majority rules.

# AS

| NOBC/NEC | Title | BA |
|---|---|---|
| 0102 | General practice medical officer | 1 |
| 0107 | Undersea medical officer | 1 |
| 0108 | Family physician | 1 |
| 0335 | Dental officer general practitioner | 2 |
| 0525 | Comprehensive dentist | 1 |
| 0845 | Radiation health officer | 1 |
| 0862 | Industrial hygiene officer | 1 |
| DT0000 | General duty DT | 6/7 |
| HM0000 | General duty HM | 4 |
| 8402 | Sub force IDC | 1 |
| 8407 | Radiation health tech | 1 |
| 8425 | Surface force IDC | 1 |
| 8432 | Preventive med tech | 2/3 |
| 8451 | X-ray tech, basic | 1 |
| 8478 | Adv biomed equip tech | 1 |
| 8482 | Pharmacy tech | 1 |
| 8483 | Surgical tech | 1 |
| 8506 | Medical lab tech | 1 |
| 8703 | Dental admin tech | 1 |
| 8752 | Dental lab tech basic | 1 |
| 8753 | Dental lab tech adv | 1 |

# CV and CVN

| NOBC/NEC | Title | BA |
|---|---|---|
| 0028 | Health service division officer[a] | 1 |
| 0102 | General practice medical officer | 1 |
| 0113 | Physician's assistant | 1 |
| 0163 | Preventive medicine officer (aerospace) | 1 |
| 0214 | General surgeon | 1 |
| 0335 | Dental officer general practitioner | 2 |
| 0525 | Comprehensive dentist | 1 |
| 0550 | Oral maxillofacial surgeon | 1 |
| 0569 | Prosthodonist | 1 |
| 0800 | Health care administrator | 1 |
| 0862 | Industrial hygiene officer | 1 |
| 0904 | Critical care nurse | 1 |
| 0952 | Nurse anesthetist[b] | 1 |
| DT0000 | General duty DT | 9 |
| HM0000 | General duty HM | 14 |
| 8406 | Aerospace med tech | 2 |
| 8425 | Surface force IDC | 2 |
| 8432 | Preventive med tech | 3 |
| 8452 | X-ray tech, advanced | 1 |
| 8463 | Optician | 1 |
| 8478 | Adv biomed equip tech | 1 |
| 8482 | Pharmacy tech | 1 |
| 8483 | Surgical tech | 2 |
| 8506 | Medical lab tech | 2 |
| 8703 | Dental admin tech | 1 |
| 8708 | Dental hygienist | 1 |
| 8752 | Dental lab tech basic | 1 |
| 8753 | Dental lab tech adv | 1 |
| 8783 | DT surgical tech | 1 |

a. Only on CVN Nimitz.
b. Only on CV Constellation.

## CG, DD, DDG and FFG

| NOBC/NEC | Title | BA |
|---|---|---|
| HM0000 | General duty HM | 1/2[a] |
| 8425 | Surface force IDC | 1 |

a. 1 HM0000 on CG and DD, 2 on DDG and FFG.

## LHA and LHD

| NOBC/NEC | Title | BA |
|---|---|---|
| 0020 | Health service department head | 1 |
| 0102 | General practice medical officer[a] | 1 |
| 0525 | Comprehensive dentist | 1 |
| 0800 | Health care administrator | 1 |
| DT0000 | General duty DT | 2 |
| HM0000 | General duty HM | 7 |
| 8406 | Aerospace med tech | 1 |
| 8425 | Surface force IDC | 1 |
| 8432 | Preventive med tech | 2 |
| 8452 | X-ray tech, advanced | 1 |
| 8478 | Adv biomed equip tech | 1 |
| 8482 | Pharmacy tech | 1 |
| 8483 | Surgical tech | 1 |
| 8506 | Medical laboratory tech | 1 |
| 8703 | Dental admin tech | 1 |
| 8708 | Dental hygienist | 1 |

a. Not on LHA.

## LPD

| NOBC/NEC | Title | BA |
|---|---|---|
| 0020 | Health service department head | 2 |
| DT0000 | General duty DT | 1 |
| HM0000 | General duty HM | 2/3 |
| 8425 | Surface force IDC | 1 |
| 8432 | Preventive med tech | 1 |
| 8451 | X-ray tech, basic | 1 |
| 8506 | Medical laboratory tech | 1 |
| 8703 | Dental admin tech | 1 |
| 8708 | Dental hygienist | 1 |

## LSD

| NOBC/NEC | Title | BA |
|---|---|---|
| 0020 | Health service department head | 2 |
| DT0000 | General duty DT | 1 |
| HM0000 | General duty HM | 1/2 |
| 8425 | Surface force IDC | 1 |
| 8432 | Preventive med tech | 1 |
| 8451 | X-ray tech, basic | 1 |
| 8482 | Pharmacy tech | 1 |
| 8506 | Medical laboratory tech | 1 |
| 8703 | Dental admin tech | 1 |
| 8708 | Dental hygienist | 1 |

## LST

| NOBC/NEC | Title | BA |
|---|---|---|
| HM0000 | General duty HM | 1 |
| 8425 | Surface force IDC | 1 |

## MCM, MHC, SSN, and SSBN

| NOBC/NEC | Title | BA |
|---|---|---|
| 8425 | Surface force IDC | 1 |

## MCS

| NOBC/NEC | Title | BA |
|---|---|---|
| 0102 | General practice medical officer | 1 |
| 0335 | Dental officer general practitioner | 1 |
| DT0000 | General duty DT | 1 |
| HM0000 | General duty HM | 4 |
| 8425 | Surface force IDC | 1 |
| 8432 | Preventive med tech | 2 |
| 8451 | X-ray tech, basic | 1 |
| 8482 | Pharmacy tech | 1 |
| 8506 | Medical laboratory tech | 1 |
| 8703 | Dental admin tech | 1 |
| 8708 | Dental hygienist | 1 |

## SEAL

| NOBC/NEC | Title | BA |
|---|---|---|
| 8425 | Surface force IDC | 1 |
| 8491 | Special OPS IDC | 12 |
| 8492 | Special OPS tech | 12 |

# CVW squadrons

## HS, VAQ, VAW, VF, VFA, VPU, and VS

| NOBC/NEC | Title | BA |
|---|---|---|
| 8406 | Aerospace med tech | 1 |

## HM, VP and VQ

| NOBC/NEC | Title | BA |
|---|---|---|
| 0110 | Flight surgeon | 1 |
| 8406 | Aerospace med tech[a] | 2 |

a. Not on VQ3 and VQ4 sea duty detachment.

# Appendix E: Distribution of the operational medical billets in the Fleet Marine Forces[1] by platform

## I MEF: 1,989 operational medical billets

### 1st MARDIV (Marine Division): 905

- 1st Infantry Regiment: 154
- 4th Infantry Regiment: 153
- 5th Infantry Regiment: 155
- 7th Infantry Regiment: 157
- 11th Artillery Regiment: 56 (four battalions)
- 3rd BN of 12th Artillery Regiment: 6 (the rest of this regiment are in III MEF)
- HQ (headquarter) BN (battalion): 31
- 1st LAR (light armored reconnaissance) BN: 51
- 3rd LAR BN: 52
- Combat Engineer BN: 33
- Tank BN: 30
- AA (assault amphibian) BN: 27

1. As of July 2000.

## 1st FSSG (Force Service Support Group): 811

- H&S (headquarters and service) BN: 64
- Supply BN: 58
- Engineer Support BN: 19
- Medical BN: 374
  - — H&S company: 120
  - — 3 Surgical Companies, each has about 85.
- Dental BN: 274
  - — H&S company: 12
  - — 3 Dental Companies and 2 Dental Detachments, sizes vary.
- 12th CSSD (Combat Service Support Detachment): 13
- 14th CSSD: 6
- 16th CSSD: 3

## 3rd MAW (Marine Air Wing): 212

- HQ: 9
- MAG-11 (Marine Aircraft Group): 31[2]
- MAG-13: 44
- MAG-16: 74
- MAG-39: 52
- MACG-38 (Marine Air Control Group): 2

## Other units under CGIMEF: 61

- MHG (MEF Headquarters Group): 7
- Special Operation Training Group: 5

2. The number of squadrons in each MAG differs, and number of medical billets in MAGs is positively correlated with the number of squadrons.

- Force Reconnaissance Company: 8
- CE (Command Element): 9
- 9th Communication BN: 16
- Radio BN: 9
- SRI (surveillance, reconnaissance and intelligence) Group: 6
- MEF Augmentation CE: 1

# II MEF: 1,875 operational medical billets

## 2nd MARDIV: 733

- HQ:1
- 2nd Infantry Regiment: 166
- 6th Infantry Regiment: 166
- 8th Infantry Regiment: 165
- Artillery Regiment: 62
- HQ BN: 31
- LAR BN: 57
- Combat Engineer BN: 26
- Tank BN: 30
- AA BN: 20
- Reconnaissance BN: 9

## 2ND FSSG (Force Service Support Group): 824

- H&S BN: 81
- Supply BN: 57
- Engineer Support BN: 19
- Medical BN: 431

  - — H&S company: 122
  - — 3 Surgical Companies, each has about 104 medical billets.
- Dental BN: 226
  - — H&S company: 12
  - — 3 Dental Companies and 1 Dental Detachment, sizes vary.
- 21st CSSD (Combat Service Support Detachment): 4
- 23rd CSSD: 5
- SPMAGTF (Special Purpose Marine Air-Ground Task Force): 1

## 2ND MAW: 215

- HQ: 9
- MAG-14: 78
- MAG-26: 43
- MAG-29: 24
- MAG-31: 46
- MACG-28: 14
- MAG-41: 1

## Other units under CGIIMEF: 103

- MHG: 7
- Special Training Group: 6
- Force Reconnaissance Company: 8
- CE: 9
- 8th Communication BN: 17
- Radio BN: 8
- Security Force BN: 18
- Chem-bio Incidence Response Force: 30

# III MEF: 1,087 operational medical billets

## 3RD MARDIV: 274

- 3rd Infantry Regiment: 169[3]
- H&S Company of the 4th Infantry Regiment: 4 (the rest of this regiment are in I MEF)
- 10th Artillery Regiment: 4
- 12th Artillery Regiment: 21
- HQ BN: 32
- Combat Support BN: 26
- Reconnaissance BN: 13
- Billet excess of T/O: 5

## 2ND FSSG (Force Service Support Group): 611

- H&S BN: 71
- Supply BN: 54
- Engineer Support BN: 19
- Medical BN: 309
  - — H&S company: 100
  - — 2 Surgical Companies: one has 104 and the other has 105.
- Dental BN: 154
  - — H&S company: 13
  - — 2 Dental Companies and 1 Dental Detachment, sizes vary.
- 36th CSSD: 4

3. This includes 11 BAs in the Regiment Detachment.

## 1ST MAW: 124

- HQ: 9
- MAG-12: 31
- MAG-36: 49
- MACG-18: 13
- Aviation Support Element: 22

## Other units under CGIIIMEF: 78

- MHG: 7
- Special Operation Training Group: 7
- CE: 9
- 7th Communication BN: 17
- North Training Area: 3
- CSSG-1 (Combat Service Support Group): 1
- CSSG-3: 34

# References

[1] Tom McCoy. "The Leaner, Meaner, Lighter, Faster Medical Battalion." *Navy Medicine,* January-February 1996:10-12.

[2] Marine Corps Combat Development Command, SCN: DM-950205, *Mission Area Analysis of Mission Area 45, Health Services (1996-2006),* February 1997 (prepared by Analytical Systems Engineering Corporation)

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MCCDC, Attn: Total Force Structure Division

CG, II MEF, Attn: LCDR David Tomlinson

2MAWCP

2FSSG

2MARDIV

NAVMAC, Attn: Code 30, Code 40, Code 10

HQ USMC (Code HS) Attn: Capt. C. John Nickle

CNA Field Representatives:

I MEF: Richard Kohout

II MEF: Joseph Mickiewicz

III MEF: Stephen Guerra